

WHAT IS CLAIMED IS:

1. A method for remote energy consumption system retrofit identification for a facility, comprising:

receiving energy consumption data associated with  
5 the facility;

generating facility data associated with the facility;

receiving external variable data associated with the facility corresponding to the energy consumption data;

10 generating a first energy consumption model based on the facility data, the energy consumption data, and the external variable data;

generating a second energy consumption model based on the facility data and the external variable data;

15 determining energy consumption efficiency for the facility using the first and second energy consumption models; and

identifying a retrofit of an energy consumption system of the facility based on the energy consumption  
20 efficiency.

2. The method of Claim 1, further comprising validating the energy consumption data.

25 3. The method of Claim 2, wherein validating the energy consumption data comprises:

analyzing the energy consumption data for missing data; and

reconstructing the missing data.

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4. The method of Claim 3, wherein reconstructing the missing data comprises:

identifying a comparable facility;  
retrieving energy consumption data associated with  
the comparable facility; and  
reconstructing the missing data for a specified time  
5 period using the energy consumption data associated with  
the comparable facility.

5. The method of Claim 1, wherein receiving the  
energy consumption data comprises receiving the energy  
10 consumption data from an energy consumption database of  
an energy supplier.

6. The method of Claim 1, wherein receiving the  
energy consumption data comprises receiving the energy  
15 consumption data from a data collector disposed at the  
facility.

7. The method of Claim 1, wherein generating the  
facility data comprises generating the facility data  
20 using the energy consumption data.

8. The method of Claim 1, wherein generating the  
facility data comprises generating the facility data  
using physical characteristic data associated with the  
25 facility.

9. The method of Claim 1, further comprising  
generating efficiency/savings data associated with the  
retrofit.

30 10. The method of Claim 1, further comprising  
identifying an energy consumption component of the

facility using the first energy consumption model, and wherein generating the facility data comprises generating the facility data based on the energy consumption component.

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11. The method of Claim 1, wherein receiving the external variable data comprises receiving environmental data corresponding to the energy consumption data.

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12. The method of Claim 11, further comprising validating the environmental data.

13. The method of Claim 1, wherein determining energy consumption efficiency comprises:

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determining energy usage for the facility based on the second energy consumption model; and

comparing the energy usage based on the second energy consumption model with the energy consumption data.

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14. The method of Claim 1, further comprising:

identifying a comparable facility; and

retrieving energy consumption data associated with the comparable facility; and

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wherein generating the first energy consumption model further comprises generating the first energy consumption model using the energy consumption data associated with the comparable facility.

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15. The method of Claim 1, further comprising determining cost data associated with implementing the retrofit.

16. The method of Claim 1, further comprising:  
determining a plurality of retrofits for the  
facility; and

5 generating ranking data associated with the  
plurality of retrofits.

17. The method of Claim 1, wherein generating the  
facility data comprises:

10 generating physical characteristic data  
corresponding to the facility;

generating energy usage characteristic data  
associated with the facility; and

15 generating system data associated with the facility.

18. The method of Claim 1, wherein receiving the  
energy consumption data comprises:

receiving aggregated energy consumption data  
associated with the facility; and

20 generating disaggregated energy consumption data  
associated with the facility using the aggregated energy  
consumption data.

19. The method of Claim 1, wherein generating the  
25 facility data comprises:

generating physical characteristic data associated  
with the facility; and

generating energy usage characteristic data  
associated with the facility.

20. A system for remote energy consumption system retrofit identification for a facility, comprising:

a processor;

a memory coupled to the processor;

5 an energy consumption database accessible by the processor, the energy consumption database having energy consumption data associated with the facility;

10 a facility database accessible by the processor, the facility database having facility data associated with the facility;

an external variable database accessible by the processor, the external variable database having external variable data corresponding to the energy consumption data;

15 a configuration engine residing in the memory and executable by the processor, the configuration engine operable to generate a first energy consumption model based on the facility data, the energy consumption data, and the external variable data, the configuration engine  
20 further operable to generate a second energy consumption model based on the facility data and the external variable data; and

an analysis engine residing in the memory and executable by the processor, the analysis engine operable  
25 to determine energy consumption efficiency for the facility based on the first and second energy consumption models, the analysis engine further operable to identify a retrofit of an energy consumption system of the facility based on the energy consumption efficiency.

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21. The system of Claim 20, further comprising a validation engine residing in the memory and executable

by the processor, the validation engine operable to validate the energy consumption data.

22. The system of Claim 21, wherein the validation  
5 engine is operable to analyze the energy consumption data for missing data and, in response to determining that missing data exists, reconstruct the missing data.

23. The system of Claim 20, wherein the energy  
10 consumption data comprises energy consumption data residing in an energy consumption database of an energy supplier.

24. The system of Claim 20, wherein the energy  
15 consumption data comprises:

aggregated energy consumption data associated with the facility; and

disaggregated energy consumption data associated with discrete energy consumption systems of the facility.

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25. The system of Claim 24, wherein the analysis engine is further operable to generate the disaggregated energy consumption data from the aggregated energy consumption data.

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26. The system of Claim 20, wherein the facility data is generated based on the energy consumption data.

27. The system of Claim 20, wherein the facility  
30 data comprises physical characteristic data associated with the facility.

28. The system of Claim 27, wherein the facility data further comprises energy usage characteristic data associated with the facility.

5        29. The system of Claim 28, wherein the facility data further comprises system data associated with the facility, the system data indicating a present energy consumption system of the facility.

10       30. The system of Claim 20, wherein the external variable data comprises environmental data corresponding to the energy consumption data.

15       31. The system of Claim 30, further comprising a validation engine residing in the memory and executable by the processor, the validation engine operable to validate the environmental data.

20       32. The system of Claim 20, wherein the analysis engine is further operable to determine a modification to operating parameters of an energy consumption system of the facility based on the energy consumption efficiency.

25       33. The system of Claim 20, wherein the analysis engine is further operable to generate efficiency/savings data associated with the retrofit.

30       34. The system of Claim 33, wherein the efficiency/savings data comprises information corresponding to predicted energy usage of the retrofit.

35. The system of Claim 20, wherein the analysis

engine is further operable to generate cost data associated with the retrofit, the cost data indicating an implementation cost corresponding to the retrofit.

5           36. The system of Claim 20, wherein the analysis engine is further operable to determine a plurality of retrofits corresponding to different energy consumption systems of the facility, the analysis engine further operable to generate ranking data associated with each of  
10 the plurality of retrofits.

          37. The system of Claim 36, wherein the ranking data comprises information corresponding to energy savings information associated with each of the plurality  
15 of retrofits as a function of implementation costs associated with each of the plurality of retrofits.

          38. The system of Claim 20, wherein the energy consumption data comprises energy consumption data  
20 retrieved from a data collector disposed at the facility.

          39. The system of Claim 20, wherein the analysis engine is further operable to determine operating parameter data for an energy consumption system of the  
25 facility corresponding to each of the first and second models.

          40. The system of Claim 20, wherein the energy consumption data comprises energy consumption data  
30 associated with a comparable facility.



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